

Plasma and Magnetic Field Fluctuations with timescale 4-240s in Solar Wind, Foreshock and Magnetosheath

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Cluster and Double Star (TC-1) plasma and magnetic field data with 4s time resolution are used to investigate ULF wave activity in the regions of undisturbed solar wind, foreshock and magnetosheath. The preliminary results indicate that amplitudes of fluctuations of parameters with timescale 4-240s in magnetosheath and foreshock are about 3-4 times larger than that in undisturbed solar wind. The properties of the plasma turbulence in the magnetosheath are strongly controlled by IMF orientation with respect to the bow shock normal. Variations of parameters in the magnetosheath behind quasi-parallel bow shock are about 2 times more intensive than that behind quasi-perpendicular. We compared our results with results of INTERBALL-1 data analysis. They accord with each other not only in quality but also in quantity. Almost purely compressional waves are found in quasi-perpendicular magnetosheath.